



PART II: Sea Creatures on Maps

Unlike land creatures on early maps, sea creatures were much more prevalent on maps, both in the number and distribution of them. The sources and reasons for the depiction of sea creatures on maps are similar to those of the land creatures and include the following: the illustration of ancient legends and myths, misinterpretations of actual sightings by mariners, the perceived need to fill the voids of the large expanses of open seas on the map, the attempt to educate, excite and entertain the map audience with exotic creatures, as purely decorative elements to increase commercial sales of printed maps, and, on occasion, deter competitors from exploring certain sea routes to lucrative trade centers/fishing grounds. Two recent publications provide very authoritative and detailed analysis of this mapping phenomenon: *Sea Monsters on Medieval and Renaissance Maps* by Chet Van Duzer (2013) and *Sea Monsters, A Voyage Around the Most Beguiling Map* by Joseph Nigg (2013). These two books, plus an extensive amount of images on the internet indicate an broad interest in this subject. While there are many images of sea monsters on the internet what is lacking is "context". Which specific maps displayed these creatures? Where were they displayed in the world? When were the images created? Why were they drawn the way they were? What were these images based upon – fact or legend? The two books referenced above address these questions thereby providing context, not just pictures of exotic and fanciful creatures from a bygone era. It should be noted that the maps under consideration are all from European sources since I have not found such illustrations on Chinese, Islamic, Korean or Indian maps.

Often referred to as sea "monsters", Chet Van Duzer defines this term as "an aquatic creature that was thought astonishing and exotic (regardless of whether in fact it was real or mythical) in classical, medieval or Renaissance times". As Van Duzer points out, many of the sea creatures that appear on medieval maps are "hybrids", such as the sea dog, the sea lion and the sea pig. The sources for many of these creatures was the ancient and medieval theory that every land creature had its equivalent in the sea.

The Romans were very suspicious of the sea in general: the poet Propertius curses the man who first invented sailing vessels, and Pliny calls the sea "the most savage part of nature," and talks about how there are many monsters in the sea because the sea mixes the "seeds and first principles" of things, resulting in many dangerous hybrid creatures. And the Romans were particularly wary of the Atlantic. The poet Albinovanus Pedo left an evocative description of the voyage of Germanicus to the Northern Ocean early in the first century CE, where he was overtaken by a storm:

(...) banished from the familiar limits of the world they dare to pass through forbidden shades to the bounds of things, the remotest shores of the world. Now they think Ocean, that breeds beneath its sluggish waves terrible monsters, savage sea-beasts everywhere, and dogs of the sea, is rising, taking the ships with it (the very noise increases their fears): now they think the vessels are sinking in the mud, the fleet deserted by the swift wind, themselves left by indolent fate to the sea-beasts, to be torn apart unhappily.

This passage depicts the Atlantic as both forbidden and a place of terrors, filled with dangerous sea monsters. In the fourth century Saint Ambrose indicates that the Atlantic is unknown and violent, and that mariners do not even attempt to sail on it:

Who knows, after all, how far this great sea extends, onto which sailors do not dare to sail, and, up till now, have not attempted to do so, and which surrounds Britain with furious waves and which reaches even further places that are not even accessible in legends.

The impossibility of navigating in the Atlantic often took concrete representation on maps in the form of the *Pillars of Hercules* at the mouth of the Strait of Gibraltar, which were thought to represent the furthestmost western limit of travel. On the nautical chart made in 1367 by the Pizzigani brothers, there is a statue of Hercules outside the Strait with a legend that reads: "Here is the statue that was in the time of Hercules that Zirquo [?] founded for the safety of mariners. It was built by the sea that one can navigate, but beyond the statue is a shallow sea that cannot support ships."

In the medieval period most of the surviving maps do not display any land or sea creatures. This is because of two major factors: first is the purpose of most European medieval *mappaemundi* was more religiously-themed than scientific, geographic or zoological and what limited space was available for any decorative element was usually a religiously themed one; second, was the fact that most were relatively small and schematic and lacked the space for any decorative elements like cities, mountains, rivers and creatures. Even some larger medieval *mappaemundi* that had other decorative elements did not include sea creatures (some of these contain textual legends about sea creatures but did not depict them on the map). However, some medieval maps did depict sea creatures, as shown below.

Chet Van Duzer suggests that sea monsters on maps have two main roles. First, they may serve as graphic records of literature about sea monsters, indications of possible dangers to sailors and data-points in the geography of the marvelous. Second, they may function as decorative elements which enliven the image of the world, suggesting in a general way that the sea can be dangerous, but more emphatically indicating and drawing attention to the vitality of the oceans and the variety of creatures in the world, and to the cartographer's artistic talents. Of course these two roles are compatible, and sea creatures can play both at the same time. Indeed, it is interesting to see how different cartographers give their sea creatures these roles in different proportions. Many of the sea creatures on the medieval Beatus *mappaemundi* (see *monograph* #207), for instance, are essentially decorative, while a few derive from texts on natural history. Three of the four sea monsters in the Indian Ocean on the *Genoese* world map of 1457 (#248) are located there because texts or tradition located them there, while the monsters in the Madrid manuscript of Ptolemy's *Geography*, which dates from about 1460, are purely decorative and are located at random, though they seem to be iconographically based on the monsters in a bestiary or illustrated encyclopedia. Other specific points regarding the functions of sea monsters on maps, for example, include the suggestion that the numerous monsters in the Norwegian Sea on Olaus Magnus' 1539 map of Scandinavia, the *Carta Marina* (#366), were intended to scare away the fishermen of other nations, leaving the abundant catch to Scandinavian fishermen. It is this latter map that Joseph Nigg devotes his book on sea monsters. Nigg provides an in-depth look at the 1539 *Carta Marina* of Olaus Magnus, identifying each sea creature and discussing its possible origin/source and its subsequent influence on later cartographers and illustrators.

One obvious, but astute, observation by Van Duzer is that the sea creatures displayed on maps, unlike the land creatures, are ones that would generally only be

observable underwater. Therefore their appearance on maps in the medieval and Renaissance periods would often be the first time they would be seen anywhere by non-mariners.

European conceptions of the Atlantic and other oceans began to change in the 15th century, and they began to be thought of as a space that men in ships could successfully cross, and across which trade could be conducted. This change can be seen with striking clarity in two famous large world maps made by one cartographer at the beginning of the 16th century, namely the world maps made in 1507 and 1516 by the German cartographer Martin Waldseemüller (#310). Specifically, the change can be seen in the treatment of sea monsters on the two maps, which often serve as proxies for ideas about the oceans.

Most of the sea monsters on the 1507 map are dangerous, or are at least of a nature that would discourage navigation. One of the legends off the eastern coast of Africa reads: “Here is seen the leviathan or sea-dragon which frequently fights against the whale.” West of the island of Java Major there is a legend about a sea monster which reads “Here is seen the granus, a very large fish that has only one eye in its face,” and north of Java Major there is another that reads “Here is seen the siren, a horrible sea monster”.

Waldseemüller’s legends about these sea monsters derive from the *Hortus sanitatis* (or *Ortus sanitatis*), an anonymous illustrated encyclopedia of plants, animals, reptiles, birds, fish, and stones, which was first published in 1491 in Mainz by Jacob Meydenbach. Much of the material about sea monsters in this encyclopedia comes from the *Etymologies* of Isidore of Seville (c. 560-636) and the *De natura rerum* of Thomas of Cantimpre (1201-1272) – that is, from medieval sources.

The situation on Waldseemüller’s *Carta marina*, printed in 1516 (#320) just nine years after his 1507 map, is completely different. The cartographer has abandoned these medieval texts about sea monsters, and now has just one image of a sea monster, off the southeastern tip of Africa, which shows King Manuel of Portugal riding a sea monster. Following Vasco da Gama’s successful return from his voyage to India by sailing around Africa in 1499, King Manuel adopted a new title, “Lord of the conquest, and navigation, and commerce of Ethiopia, Arabia, Persia and India.” His adoption of this title is recorded in two sources that we know Waldseemüller consulted.

While the sea monsters on Waldseemüller’s 1507 map are dangerous, and thus would discourage navigation, the image on the *Carta marina* shows a human controlling a sea monster, and thus boldly proclaims human control over the dangers of the sea, and by extension, dominion over the oceans themselves. The ocean is thus no longer so much a place of danger, as an element that can be conquered by humans, and across which trade can be conducted. This emphasis on the economic possibilities offered by control of the seas is evident elsewhere on the *Carta marina*: in the southeastern corner of the map there is a large text box that supplies the prices and sources of the spices and other merchandise available in the great emporium of Calicut, India.



Several maps that were highly decorative with many zoological representations on land but depicted no sea creatures include the 1519 *Atlas Miller* (#329.1) and the 1529 Diego Ribero world map (#346). Another very famous large *mappamundi* by Fra Mauro,

dated 1459 (#249) that is profusely decorated does not contain any sea creatures other than a small fish. However, his text describes two creatures that attack ships, one with a spike on its back (like a *serra*), and another that chews through wood-but they are not depicted. The general absence of sea monsters on the map is the result of Fra Mauro's skeptical attitude, particularly regarding reports of monsters and other wonders, which he expresses in several legends on his map. For example, he writes: "Because there are many cosmographers and most learned men who write that in this Africa, and, above all, in the Mauritanias, there are human and animal monsters, I think it necessary to give my opinion in all these kingdoms of the negroes I have never found anyone who could give me information on what those men have written. Thus, not knowing anything, I cannot bear witness to anything; and I leave research in the matter to those who are curious about such things."

However, at the end of the 17th century, sea creatures start to disappear from maps. European understanding of science was growing, and the printing press made the spread of realistic images easier. "As technology advanced, as our understanding of the oceans and navigation advanced, more emphasis was placed on human's ability to master the watery element: to sail on it and conduct trade on it," Van Duzer states. "And thus images of the dangers of the sea, while they certainly did not immediately disappear from maps in the 17th century, became less frequent over time, and images of ships became more common."

Since these two books and the internet provide such a large number of illustrations of sea creatures on early maps I will not try to replicate all of those. Rather, below I have selected those sea creatures from maps in my digital collection that I think are particularly influential and/or unique.

Mermaids populate the sea in myths from Scandinavia to Africa; beautiful, long-haired, and musical, they come in various species, single- or double-tailed, and sometimes in the form of sea-horses, or *hippocampi*. Long confused with sirens, who in Homer have bird-bodies, they lure sailors to live with them in the depths. The attraction is usually fatal: in the Odyssey, the sirens tempt wayfarers with foreknowledge of all that is to come, but the shore where they roost is littered with the bones of their victims. In the Arabian Nights, on the other hand, marrying a mermaid can be a success (in "The tale of Julnar the Sea-Born," for example).

In the 16th century, there already existed a branch of mapping – maritime cartography – which produced piloting guides and nautical maps focusing exclusively on marine spaces, such as ones made by the Dutch cartographer Lucas Waghenauer. However, these charts did not solely represent marine spaces; there were invariably also terrain areas depicted on the borders of these maps. Similarly, terrain-oriented atlases, did not solely represent the continental regions, but also the marine spaces around it. This was simply the nature of the quadrangular-shaped maps in atlases.

As the geographer Philip E. Steinberg has stated, the shift in Western culture to a perception of the ocean spaces as a negligible place occurred at the turn of the 16th and the 17th centuries. As a consequence characterizations of the sea became more benign, but at the same time it lost much of its former significance. Earlier conventions which saw the ocean space as a terrifying wilderness were replaced little by little with the idea of it as rather being a void between continents.

The ocean space was a meaningless area in the maps of the atlas in the sense that cartographers like Mercator and Hondius placed textual descriptions concerning the knowledge of the continents that were being depicted on the map on the sea areas. Only

with a few exceptions do these textual descriptions focus on the sea itself. An example of this is the map of the polar regions by Mercator (*see monograph #407*), in which there is an account of the sea currents.

However, the ocean spaces on the 16th century maps did not only serve as a site for textual descriptions. As a matter of fact, they were simultaneously a place for various different representations and signs concerning the terrestrial space. There were various depictions of ships and boats, as well as sea monsters, both decorative ones and those representing the vitality of the life of the ocean, and creatures which clearly represented known marine animals. Consequently, the ocean space in these maps was not represented merely as a meaningless void, but also a subject of knowledge.

In addition to the abundance of ships on the maps altogether 44 illustrations of sea monsters and other living beings can be found in the 1613 Mercator-Hondius Atlas (*see below*). Mercator has produced a quarter of these and three quarters are found on maps by Hondius. This is fewer than the number of illustrations of ships, a fact which can be interpreted to reflect the altered functions of sea monsters in Western cartography from being an indicator of danger to a decorative or informative illustration. The sea monsters are not depicted as hostile in the atlas, unlike the many illustrated on earlier maps such as *Carta Marina* (1539) by Olaus Magnus and in treatises such as *Cosmographia* (1540) by Sebastian Münster. An exception is a depiction of Jonah and the whale on the map of the Holy Land made by Hondius (*see below*). This was a very popular theme in Dutch art during this time, from which it was most likely derived. The image of Jonah and the whale in this atlas was undoubtedly copied from Ortelius' *Theatrum*, but it was altered from the original. In Hondius' map the boat is reversed and the sea monster is further away from the ship.

Most of the creatures depicted on the maps by Mercator and Hondius could be classified as "generic sea monsters". These sea monsters are structured as creatures that have fins resembling more a mane than the exact fin of a fish. Their head also resembles more the heads of renowned land animals than marine animals, but the rest of the body seems to accord with those of marine animals such as fishes. Monsters of this kind were circulated amongst map-makers and engravers.



A rare 12th century Macrobian map which has sea monsters, a "sea dog" and what appears to be a faded "sea bear"; also a display of the Antipodean region.
(see monograph #201)

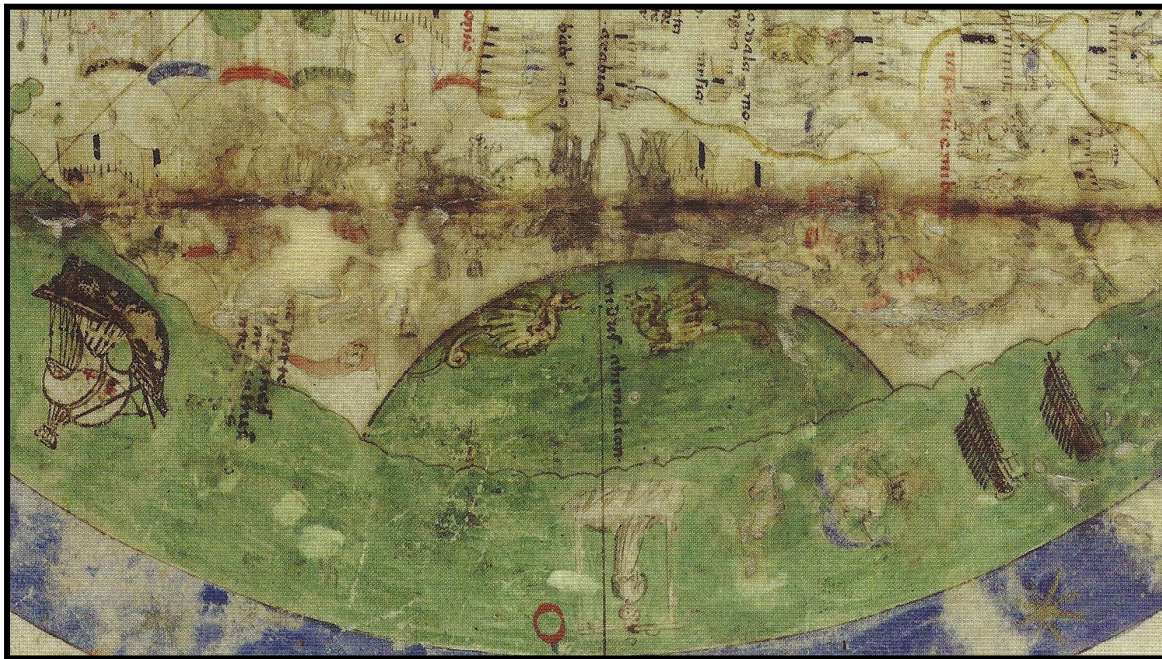


The mappamundi in a miscellaneous manuscript of c. 1180 that shows a huge Leviathan with the earth in its grip. And four enormous hybrid sea monsters coursing the outer ocean.
Munich, Bayerische Staatsbibliothek, CLM 7785, fol. 2v

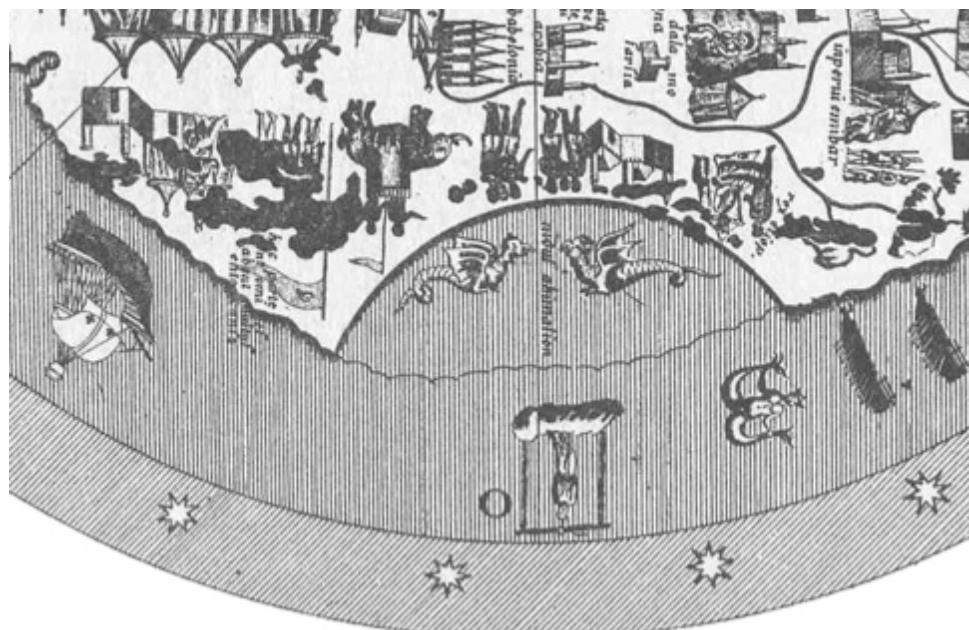


A siren beside a ship in the southern ocean in the 'San Andrés de Arroyo Beatus', c.1248; the siren's dancing gesture probably indicates that she is singing to the sailors on the ship. Below is an aquatic dragon, a personification of Ocean wrestling with two sea serpents, and a starfish in the western ocean on the San Andrés de Arroyo Beatus. Also shown are the cities of Seville (not shown on another Beatus mappae mundi), Baetica and Toledo. (#207.25)





A two-tailed siren and two winged dragons in a watery abyss in the southern ocean on the Andrea Bianco mappamundi (#241)





A mermaid in the Eastern Mediterranean Sea on the 13th century Hereford mappamundi (#226)



In this map of the southern cape of Africa from Gastaldi's *Cosmographia Universalis* (1550), a mermaid is holding up a laurel wreath—a promise of glory. Beside her, in the roiling waves, a grotesque *orcha*, a sea-orc, is breathing out fire: a kind of sea dragon, his gigantic size embodies the vastness and violence of the ocean itself. Beneath him, an Old Man of the Sea, with icicle beard and webbed hands, strikes a note of pathos, as if he were condemned unwillingly to live in the sea.



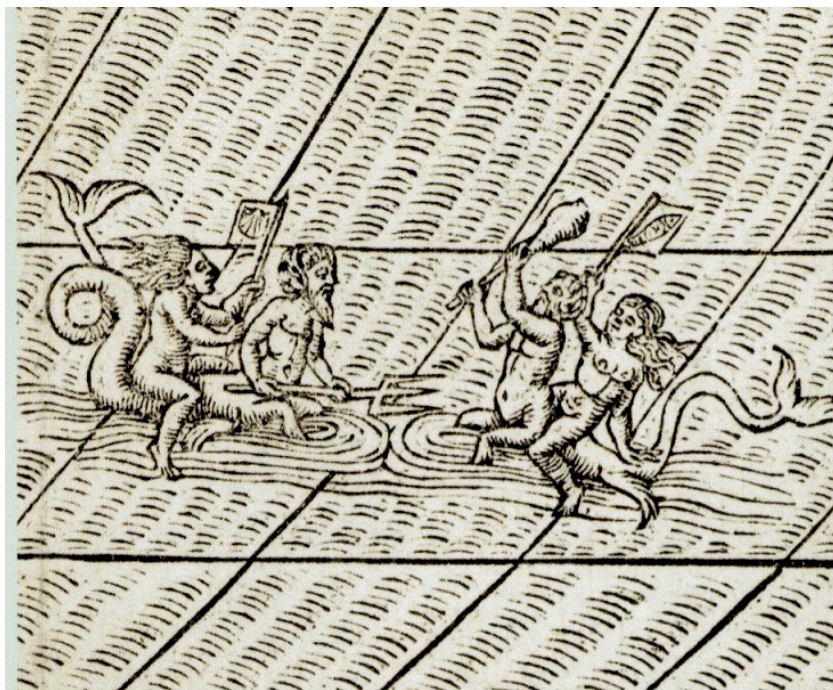
Mermaid and merman on the world map by Heinrich Bünting in his *Itinerarium Sacrae Scripturae*



Mermaids of the southwest coast of South America on the Guterrez map *Americae sive quartae orbis parties nova...*, 1562 (#400)



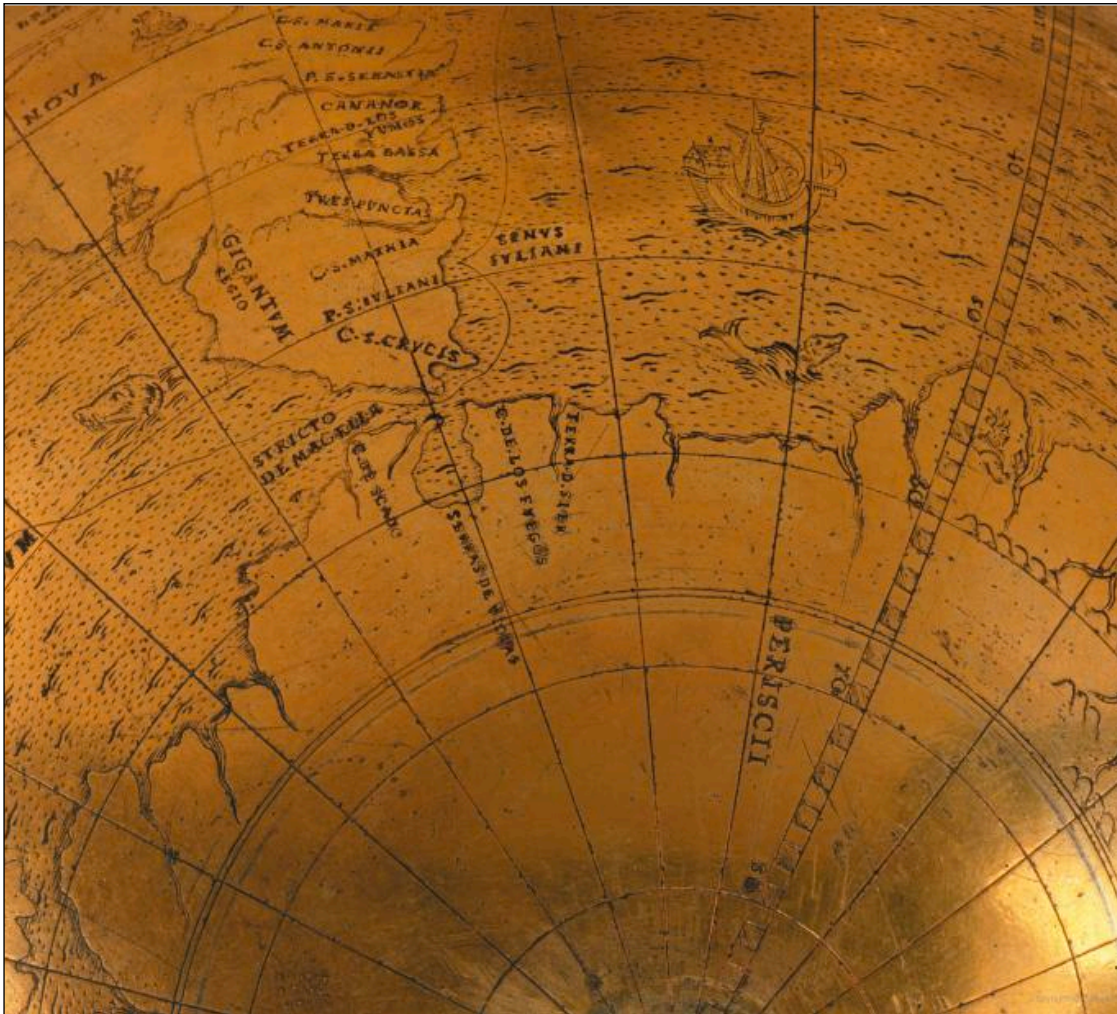
An ichthyocentaur with a violin in Scandinavia on Abraham Ortelius' *Scandia* map, 1571



A woman holding a sea-shell banner riding a merman with a trident, confront a woman holding a fish banner riding a merman brandishing a club southeast of Africa on Gastaldi's Dell' Universale map of 1550. (see monograph #376)



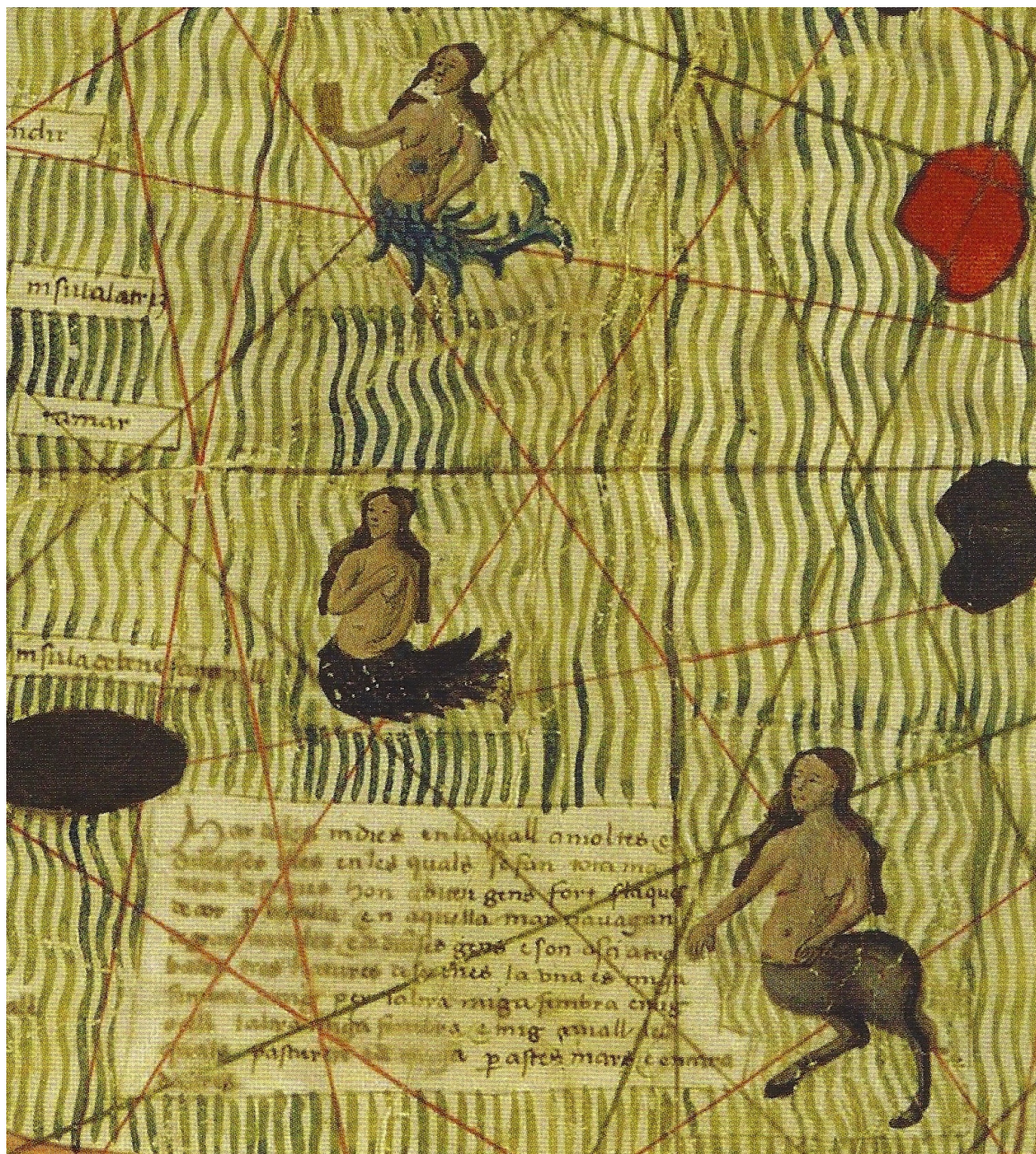
A mermaid/siren in the southern ocean on Pierre Descelier's world map, 1550 (#378)



*An unknown sea creatures in the south Atlantic and Pacific on the 1527
Nova et integra universi orbis descriptio [Paris Gilt or De Bure Globe] (#344)*



*A two-tailed siren surrounded by islands in the Indian Ocean on the Catalan Atlas of 1375
 (#235)*



Three different sirens in the Indian Ocean on the Catalan Estense mappamundi, 1460 (#246)





Sea creatures on the 1646 wall map *Nova et Exacta Asia Geographica Descriptio*, Willem Blaeu (#482)

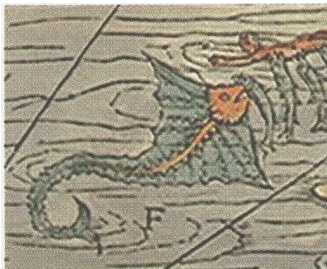


A lobster, crab and turtle in the Indian Ocean (#482)



Sea creatures – a hybrid sea-pig, a siren, a serra with a spiky red chest and a demon-like sea monster that came ashore and attacked cattle in Candia – in the Indian Ocean on the Genoese world map of 1457 (#248)

Olaus Magnus' hugely imaginative and influential map of Scandinavia, printed in 1539 on nine panels and measuring a total of 49 x 67in (125 x 170cm). The *Carta Marina* (#366) is a wonder to behold, its waters teeming with beautiful grotesques - some posing as islands, some shattering ships and some carrying off sailors. To engineer his monstrous aquarium, Olaus took his information from mariners' accounts, medieval bestiaries (such as the *Hortus Sanitatis* of 1485) and popular folklore; and he usefully accompanied each vignette with labels and an elaborate key. Even more helpful was his *Historia de gentibus septentrionalibus* [A Description of the Northern peoples] printed in Rome in 1555, in which books 21 and 22 provide commentaries on the monsters. Despite the fanciful nature of some of the depictions, Olaus had scientific intentions in presenting an accurate gallery of marine biology - indeed, some of these creatures are recognizable distortions of real animals, while others are purely mythical; but all give an insight into the beliefs and fears that existed in the imagination of the 16th century sailor.



"The benevolence of the fishes called *Rockas* in Gothic and *Raya* in Italian: They protect the swimming man and save him from being devoured by sea monsters. In his *Historia*, Olaus compares the kindly *Rockas*, or ray, to the tale told by the German scientist and philosopher Albertus Magnus (c.1200), who writes of helpful dolphins that carry swimmers to shore, although he also mentions that, if they suspect the man has ever dined on dolphin flesh, they eat him. Sebastian

Munster changes little of the ray in his art, whereas Ortelius gives it the Dutch name '*Skautuhvalur*', and jettisons its kindly nature, describing it as: "completely covered in bristles or bones. It is somewhat like a shark or skate, but infinitely bigger. When it appears, it is like an island, and with its fins it overturns boats and ships."



A detail of the *Balena*, calf, and *Orca* from Olaus Magnus' "Carta Marina", here the cartographer actually labels some of his sea creatures and provides a lettered-Key to identify them 'A whale, a very great fish, and the Orca, which is smaller, his deadly enemy.'

A Whale is a very great fish about one hundred or three hundred foot long, and the body is a vast magnitude; yet the Orca, which is smaller in quantity, but more nimble to assault, and cruel to come on, is his deadly Enemy. An Orca is like a Hull turned inside outward; a Beast with fierce Teeth, with which, as with the Stern of a Ship, he rends the Whales Guts, and tears his Calves body, he quickly tuns and driues him up and down with his prickly back, that he makes him run to the Fords, and Shores. The whales can be seen here by the island of *Tile*, thought to be *Thule*.

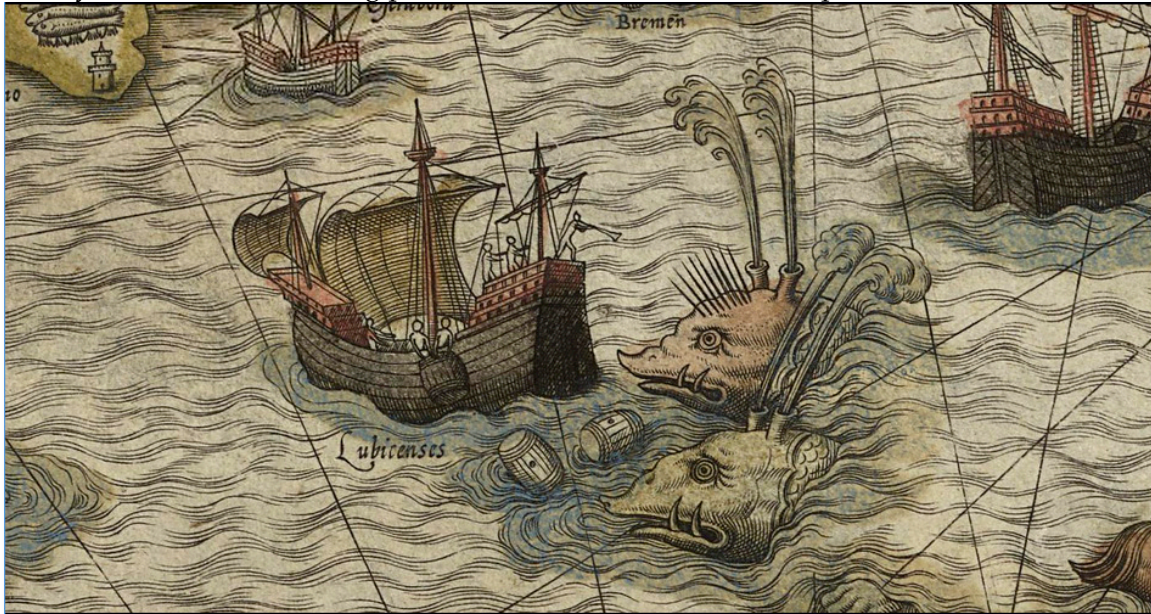
Some of the illustrations, however, are closer to real animals but warped into monstrous forms. Whales were typically drawn with beastly heads, like a cross between a wolf and a bird, with tusks or large teeth and waterspouts. Despite their generally gentle nature, they were often drawn attacking ships. While it's unlikely that such confrontations were frequent, it's easy to imagine the fear welling up when a sailor spotted the back of a whale longer than his small medieval ship rise above the waves.



'A sea snake, 30 or 40 feet long.'

The coasts of Norway were home to this monster, a blue and grey worm, longer than 40 cubits (about 60ft/18m - 20ft/16m longer than the description in the key to his map), yet as slim as a child's arm. "He goes forward in the Sea like a Line, that he can hardly be perceived how he goes; he hurts no man, unless he be crushed in a

mans hand: for by the touch of his most tender Skin, the fingers of one that toucheth him will swell." The animal, which sounds very much like an exaggerated eel, had a natural enemy in the crab, the strong pincers of which it could not escape. '



Whales attacking a ship on Olaus Magnus's Carta marina of 1539, this image from the 1572 edition. The sailors jettison barrels and a man on the ship plays a trumpet in order to scare the monsters away. (#366)



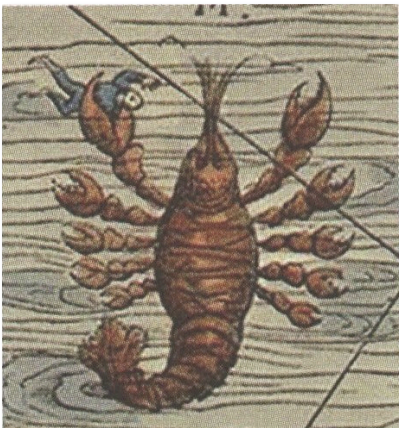
A giant sea-serpent attacks a ship off the coast of Norway on Olaus Magnus's Carta marina of 1539, this image from the 1572 edition. (#366)



A "sea unicorn" (narwhal), flying fish, and a Prister on Olaus Magnus's 1539 *Carta Marina*

The Sea Unicorn. The basis here is, of course, the narwhal, the large tusks of which were often found washed up on beaches. "The Unicorn is a Sea-Beast, having in his Fore-head a very great Horn, wherewith he can penetrate and destroy the ships in his way, and drown multitudes of men. But divine goodnesse hath provided for the safety of Marriners herein; for though he be a very fierce Creature, yet is he very slow, that such as fear his coming may fly from him."

The Prister. "The Whirlpool, or Prister, a kind of whale whose floods of waters sink the strongest ships." The species of whale is unidentified, but the description of spouting appears similar to the Balena: "The Whirlpool, or Prister, is of the kind Whales, two hundred Cubits long, and is very cruel. For to the danger of Sea-men, he will sometimes raise himself beyond the Sail-yards, and casts such floods of Waters above his head, which he had sucked in, that with a Cloud of them, he will often sink the strongest ships, or expose the Marriners to extream danger. This Beast hath also a long



and large round mouth, like a Lamprey, whereby he sucks in his meat or water, and by his weight cast upon the Fore or Hinder-Deck, he sinks and drowns a ship." Olaus advises scaring it away with a 'Trumpet of War', as it can't bear the sharp noise. Failing this, he says, cannons should do the trick.

'A *Polypus*, or creature with many feet, which has a pipe on his back. This giant lobster viciously preyed on mariners and swimmers 'with his Legs as it were by hollow places, dispersed here and there, and by his Toothed Nippers, he fastneth on every living creature

that comes near to him, that wants blood. Whatever he eats, he heaps up in the holes where he resides: Then he casts out the Skins, having eaten the flesh, and hunts after fishes that swim to them.' The Polypus could change his color to blend in with his environment, something he did to escape his most feared enemy, the conger eel.



'A sea monster similar to a pig.' "Now I shall revive the memory of that monstrous Hog that was found afterwards, Anno 1537, in the same German Ocean, and it was a Monster in every part of it. For it had a Hogs head, and a quarter of a Circle, like the Moon, in the hinder part of its head, four feet like a Dragons, two eyes on both sides of his Loyns, and a third in his belly inkling toward his Navel; behind he had a Forked-Tail, like to other Fish commonly". Like several of Olaus' depictions, the Sea Pig derives

from the observations of Pliny, who described a 'pig-fish' that grunted when it was caught. Most likely, what is being described here, fantastically, is the walrus.



*Sailors mistaking a whale for an island, pitching camp and a fire;
detail from the 'Carta Marina' of Olaus Magnus*

"Seamen who anchor on the back of the monsters in belief that they are islands often expose themselves to mortal danger." Olaus' whale has a substance on its skin similar to seaside gravel, and so, when it raises its back above the waters, sailors are tricked into thinking the mound is an island. When they reach it, they climb its 'shore', drive piles into the surface to which they attach their ships and then kindle fires to cook their meat. The whale, feeling the fire, immediately dives down to the bottom, and all on his back, unless they can save themselves by ropes thrown from the ship, are drowned. Whales of such size that they are mistaken for islands and mountains are quite common in early literature, from Sinbad's first voyage in the *Arabian Nights*, to the fourth century *Physiologus* (thought to be the source of Olaus' inspiration here), in which sailors cast their anchor into a giant '*Aspidoceleon*'. In this account, though, the monster is a tool of religious symbolism - the beast is Satan, and readers are warned that: "if you fix and bind yourself to the hope of the devil, he will plunge you along with himself into the hell-fire."



The Ziphius. The terrible sea monster *Ziphius* devouring a seal.' Though its name comes from *xiphias*, the Greek word for sword, this creature is completely separate to what we know as a swordfish. The blade of this owl-faced monster appears to be the sharp dorsal fin on its back:

Because this Beast is conversant in the Northern Waters, it is deservedly to be joined with other monstrous Creatures. The Sword-jish is like no other but in something it is like a Whale.

He hath as ugly a head as an Owl: His mouth is wondrous deep, as a vast pit, whereby he terrifies and drives away those that look into it. His Eyes are horrible, his Back Wedge-fashion, or elevated like a sword; his snout is pointed. These often enter upon the Northern Coasts, as Thieves, and hurtful Guests, that are always doing mischief to ships they meet, by boaring holes in them, and sinking them ...



The Sea-Cow

Along with descriptions of the *Sea-mouse*, the *Sea-hare* and the *Sea-horse* are provided details of the *Sea-cow*, drawn identically to the land animal: 'The *Sea-Cow* is a huge Monster, strong, angry, and injurious; she brings forth a young one like to her self; yet not above two, but one

often, which she loves very much, and leads it about carefully with her, whither soever she swims to Sea, or goes on Lands ... Lastly, this Creature is known to have lived 130 years, by cutting off her tail.'



Caribdis. 'Several horrendous whirlpools in the sea.'

'Here is the horror Caribdis' reads the label on the map accompanying this monster, an ancient myth famously featured in *The Odyssey*, *Jason and the Argonauts* and Aristotle's *Meteorologica*. Here Olaus draws a ship caught in the terrible whirlpool, and writes: "Wherefore those that would sail

thither from the Coasts of Germany hire the most experienced Marriners and Pilots, who have learned by long Experience, how by steering obliquely, and directing their course ... they may not fall into the Gulph ... Also the Sea there, within the hollow Cave, is blown in when the Flood comes, and when it ebbs, it is blown out, with as great force as any Torrents or swift Floods are carryed. This Sea, it is said, is sailed in with great danger, because such who sail in an ill time are suddenly sucked into the Whirl-pools that run around."



The Sea Rhinoceros. Olaus only makes reference to this spotted creature in the key to his map, which states: "A monster looking like a rhinoceros devours a lobster which is 12 feet long." With such scant information, it has been suggested that this could well be the cartographer succumbing to a bout of *Horror vacui*, and filling a space with something of his own creation.

The Sea Serpent. "A worm 200ft (60m) long wrapping itself around a big ship and destroying it. There is a Serpent which is of a vast magnitude, namely 200 feet long, and moreover 20 feet thick; and is wont to live in Rocks and Caves toward the Sea-Coast about Berge ... He hath commonly hair hanging from his neck a Cubit long, and sharp Scales, and is black, and he hath flaming shining eyes. This Snake disquiets the Shippers, and he puts up his head on high like a pillar, and catcheth away men, and he devours them; and this hapneth not but it signifies some wonderful change of the Kingdom near at hand; namely that the Princes shall die, or be banished; or Tumultuous Wars shall presently follow. " This is the first written account of the sea orm, or Norway serpent. Perhaps, it is influenced by the story of *Jörmungandr* [Great Beast], a 'Midgard Serpent' from Norse mythology, that grew so large in the depths of the ocean that it eventually wrapped itself around the world.





Above is a woodcut of sea monsters inhabiting the north Atlantic and of animals found in northern lands appeared in Sebastian Münster's *Cosmographia*, Basle, 1550 and in many subsequent editions of his work. Most of the monsters shown here are found in Olaus Magnus' map of northern Europe and adjacent waters, published in 1539; Münster's popular cosmography, however, was probably the immediate source of the sea monsters that decorate and enliven the charts of many European mapmakers in the latter half of the 16th century. Münster's accompanying description of the figures in the woodcut did little to lessen the apprehension of seafarers into unknown waters. Its translation from the Latin below is by Dr M. Beaty.

The following is a description of the sea and land monsters which are pictured in the illustration. The letters A, B, C, etc. which appear in this description correspond to those on the drawing.

A Huge fish the size of mountains are sometimes seen close to Iceland. They overturn ships unless frightened away by the sound of trumpets, or they may play with empty barrels thrown in the water, a game which amuses them greatly. Occasionally sailors are endangered when they drop anchor on the backs of these whales, mistaking them for islands. The Icelanders call them Fish of the Devil. Many people of Iceland even today build their houses from the ribs and bones of these whales.

B There is a fearful species of whale called *physeters*, mentioned by Pliny and Solinus. When it stands erect this monster of the sea can sink even a large ship by sucking in water and then blowing it out again in clouds through holes in its forehead.

C These hydrae or serpents, 200 or 300 feet in length, are found in northern waters. They throw themselves on ships with the purpose of turning them over. They are extremely troublesome to sailors, especially in strong northern winds.

D One of these enormous sea monsters has terrible tusks, the other is horrifying with horns, flames, and huge eyes sixteen or twenty feet across. On its square head is a long beard. The rest of its body is quite small.

E This creature is an insatiable glutton. By squeezing itself between trees it empties its belly and then rushes back to continue eating. Hunters, creeping up, kill this animal for its beautiful skin, which noblemen enjoy wearing; but those who wear the skin sometimes become like the animal.

F Reindeer, raised in herds, can pull carriages faster than any horses, especially in the snow, covering almost 30 German miles a day. They also provide milk for household use and move about in herds like cattle. They are larger than stags, with splendid antlers which are more slender than those of stags and with fewer prongs.

G In the wilds of the North, in *Biarmia* far beyond Sweden, is a huge forest said to extend for 80 miles. Here live many animals whose fur is valued by noblemen, animals such as martens, sables, ermines, lynxes, otters, various genets, and beavers everywhere you look.

H This is a horrible sea monster, called a *Ziphius*. which devours seals.

I The fruit of certain trees produces ducks.

K A sea monster somewhat resembling a pig was sighted in 1537.

L The Norwegians call this a *spring whale* because of its agility. It has a broad, high hump on its back.

M There are crabs so large and strong that they can kill a swimmer who is caught in their claws.

N A creature resembling a rhinoceros is able to devour a crab twelve feet long. It has a sharp-pointed nose and a sharp-edged back that goes up in a peak.

O The lynx, found in the most remote parts of Sweden, is somewhat like a wolf in nature and is often caught in wolf traps. Lynxes eat cats that live in the forests.

P In the interior of Sweden elk are used to pull carriages through the snow at great speed. This isn't allowed in Gothia, though, where it is feared that their speed may be used by those wishing to spy on the country. In winter the elks stay together in herds and fight the wolves which try to devour them. We have drawn as good a likeness of this animal as a pen can provide.

Q Hunters search for pheasants which may lie hidden under the snow for two or three months without food.

R The pelican, a bird at least as large as a goose, can fill its throat with water and let out a noise as loud as the braying of a donkey. Under its beak it has a sack-like swelling.

S These fish are noted for their kindness, for they save swimmers from eaten by sea monsters.

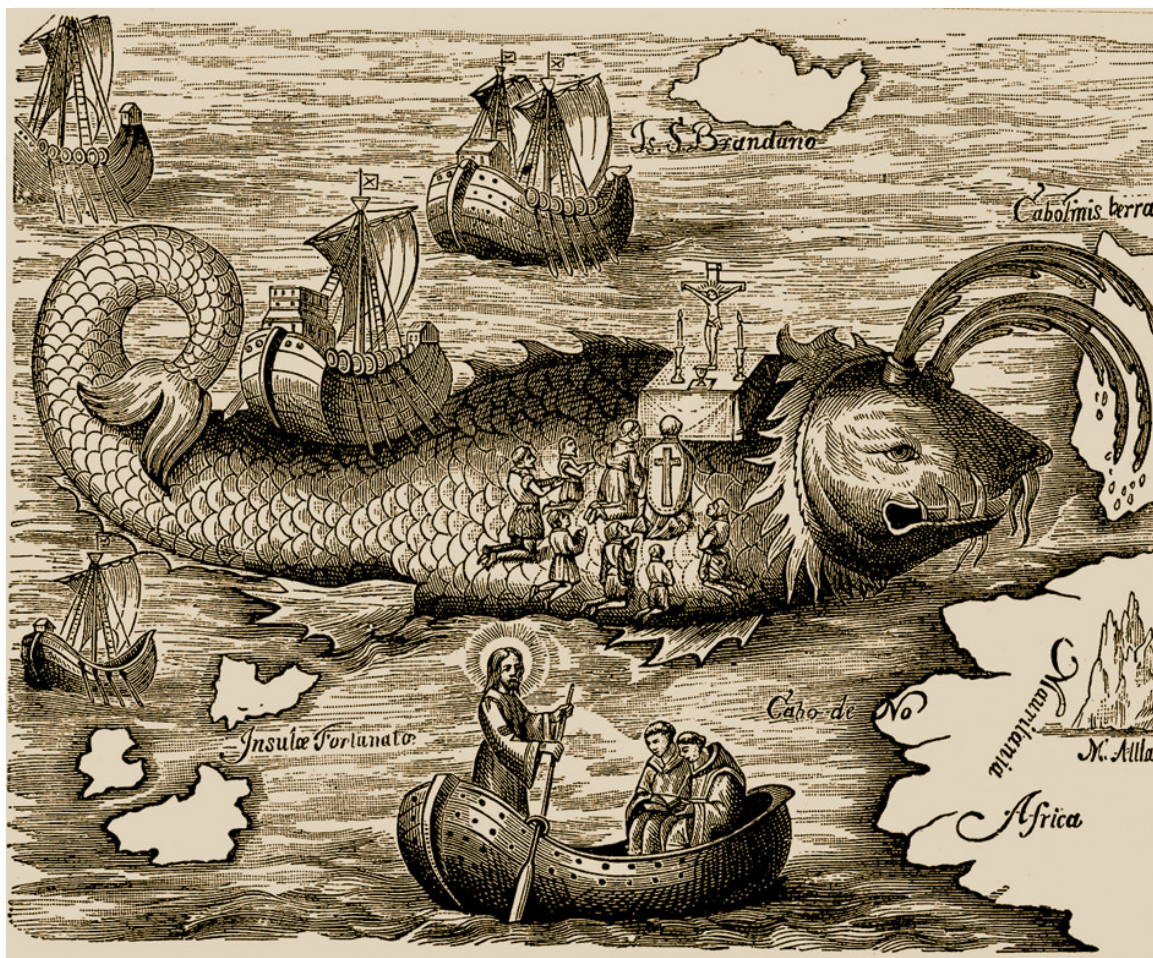
T The sea cow has a body shaped like that of a cow on land.

V A thick book could be written about the many other types and amazing appearance of the animals, fish, and birds found in northern areas, if anyone were willing to study the species with which it has pleased God to adorn that ice region. For just as the torrid zone of Africa has its own peculiar and wonderful creatures which can barely exist without the heat of that climate, so the Creator has given to the cold northern region its own creatures which cannot bear the heat of the sun. This was done in order that the glory of God might be known throughout the world and so that mankind in all parts of the world might find creatures whose appearance would grip him with a sense of wonder at the wisdom and power of God.

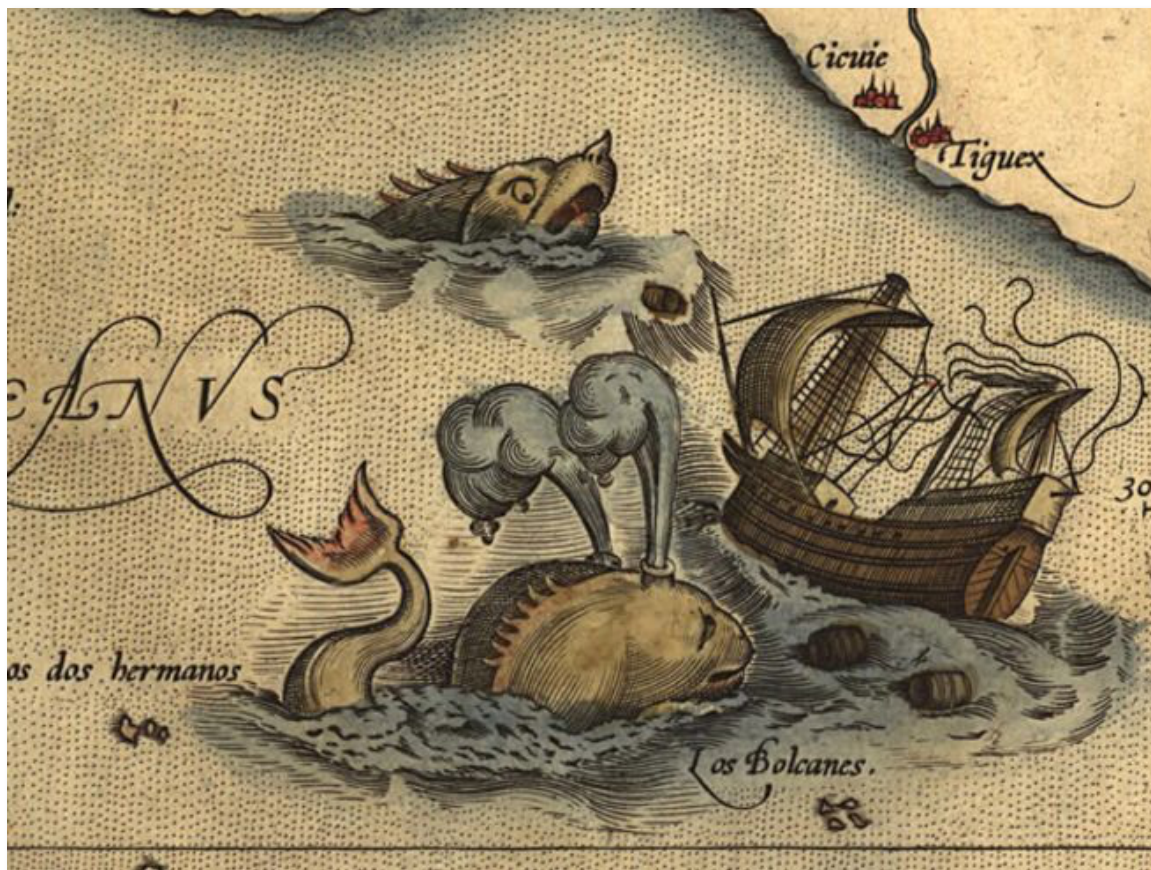




Tabula Asia VI, 1548, Giacomo Gastaldi
 Mermaid, sea snake and an unknown creature on the upper left margin



St. Brendan and his monks celebrate Easter mass on the back of the giant whale Jasconius on a map by Honorius Philoponus, 1621



A whale attacking a ship in the Indian Ocean, from Ortelius' Indiae Orientalis, 1570



Scottish whalers processing a whale in the Faroe Islands on the Carta Marina map, 1572 edition



*Two dolphins in the south Atlantic on the 1532 Typus Cosmographicus Universalis
By S. Grynaeus/H. Hoblein [S. Münster?] (#353)*



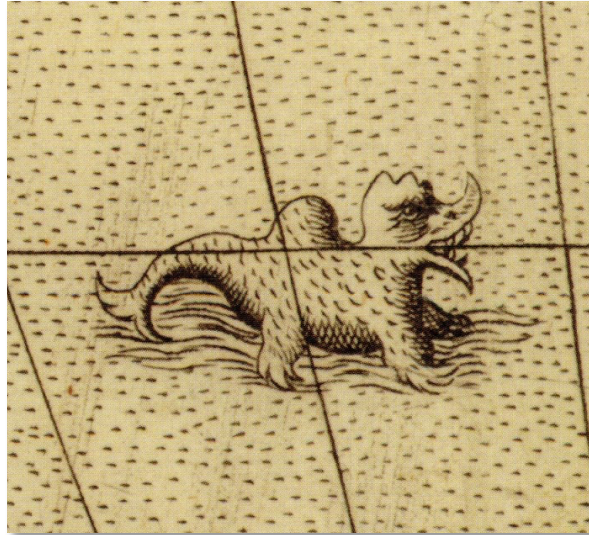
A sea monster looms off the coast of Venezuela on a 1544 world map by Urbano Monte (#420)



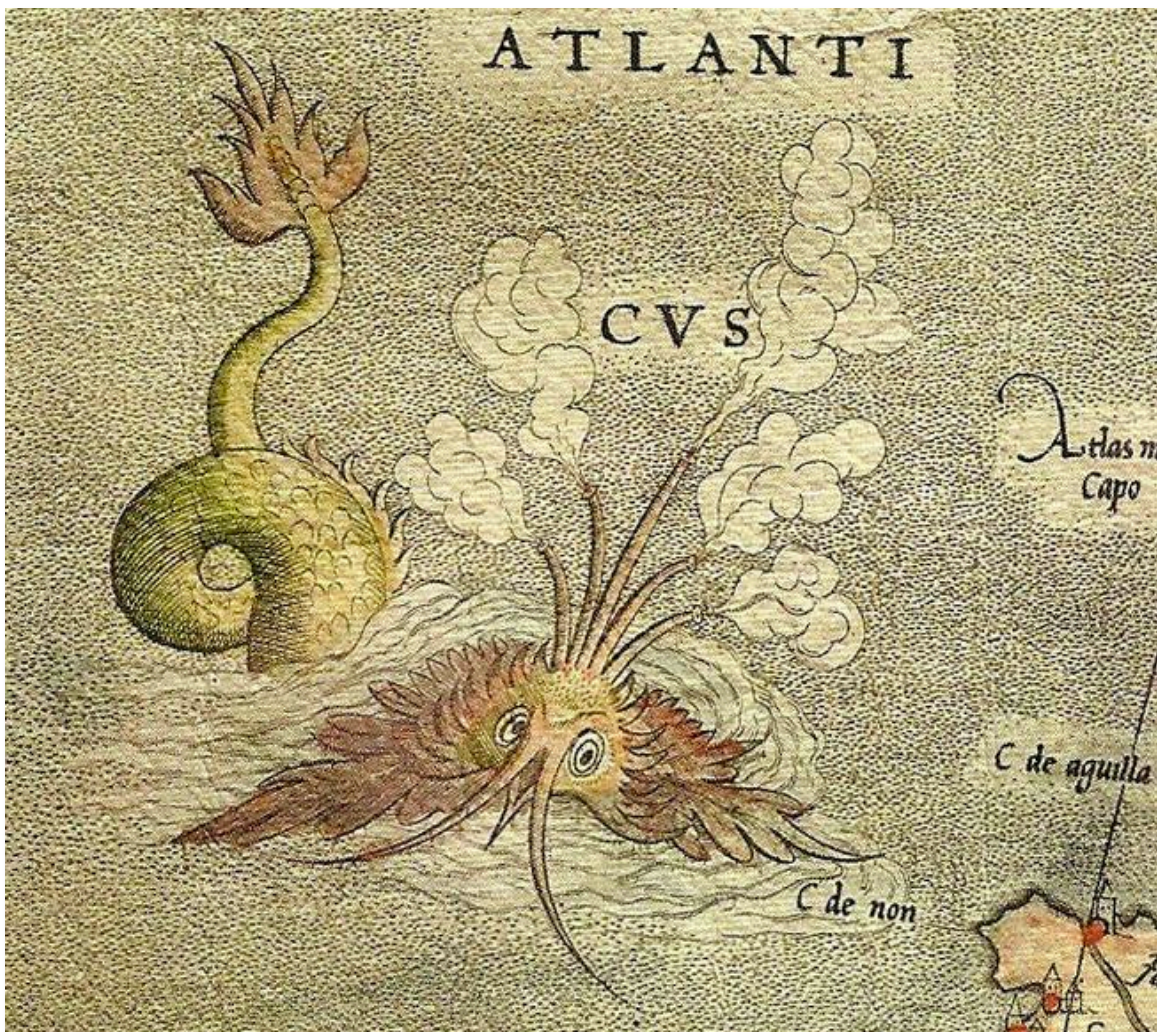
Mermen and Mermaids on the 1587 planisphere by Urbano Monte



A marine pig-dog from Gastaldi's La descriptione dela Puglia, 1567



*A humped sea dragon in the South Atlantic on Giovanni Camocio's *Cosmographia universalis et exactissima iuxta postremam neotericorum traditionem*, 1569*



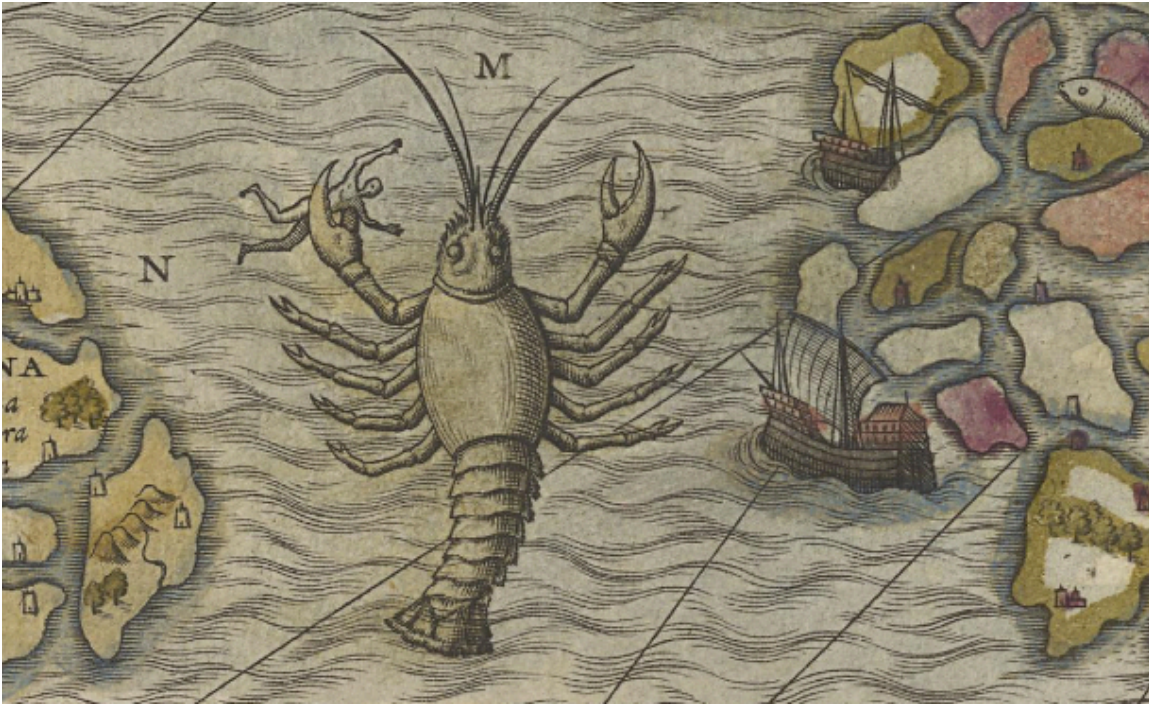
A whale-like creature with a bird-like face spouting mist from five elephantine trunks from Gerard Mercator's Europae descriptio emendata, 1572



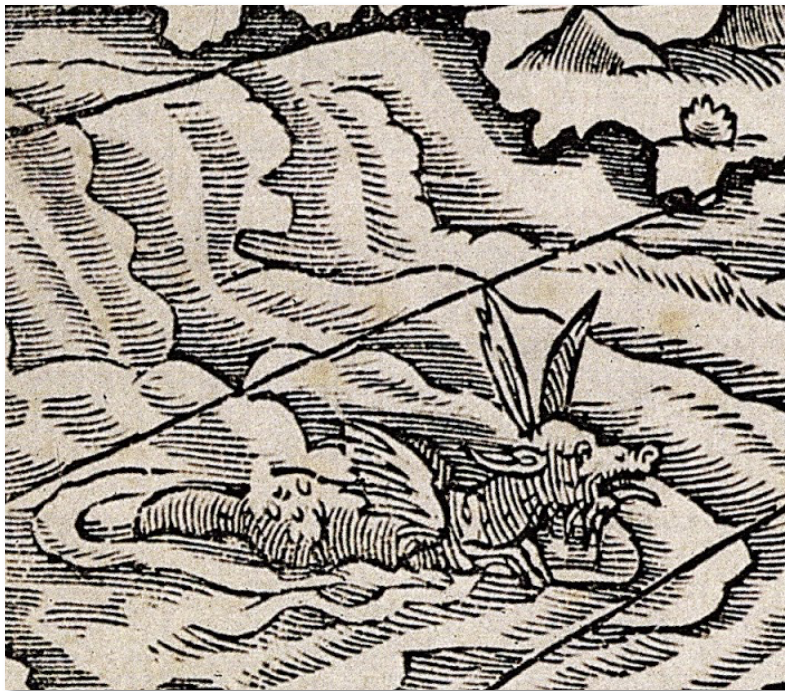
A collection of sea creatures on Abraham Ortelius' map of Iceland, 1598



This sea pig, which was compared to heretics that distorted truth and lived like swine, lived in the North Sea on Olaus Magnus' Carta Marina, 1572 (#366)



Polypus (meaning “many-footed”) was used to describe many animals, from the lobster to the centipede to the octopus. While Olaus Magnus (1539) drew a giant lobster here, his text describes an octopus, showing the true confusion about what lived in the sea. (#366)



A winged sea dragon with large rabbit ears on Gastaldi's Cosmographica Universale, 1561

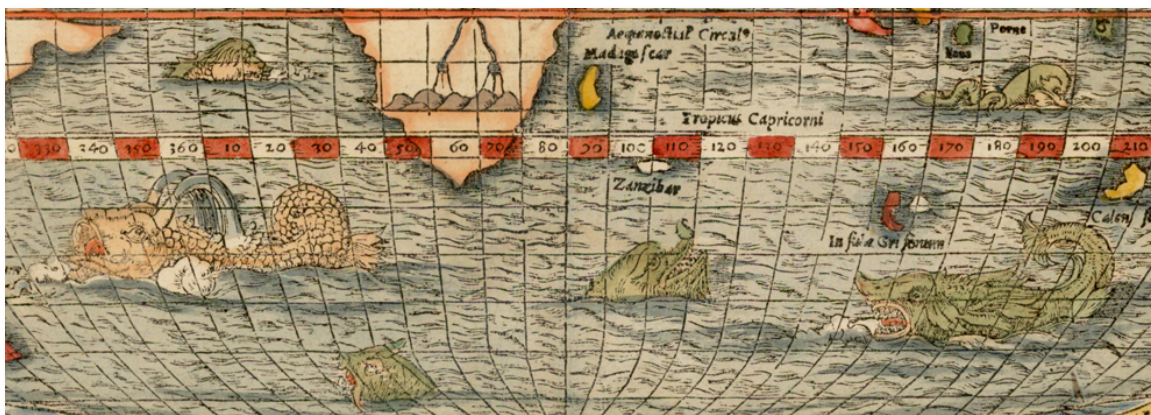


A sea monster off the African coast on Gastaldi's 1563 edition of Ramusio's Navigazioni

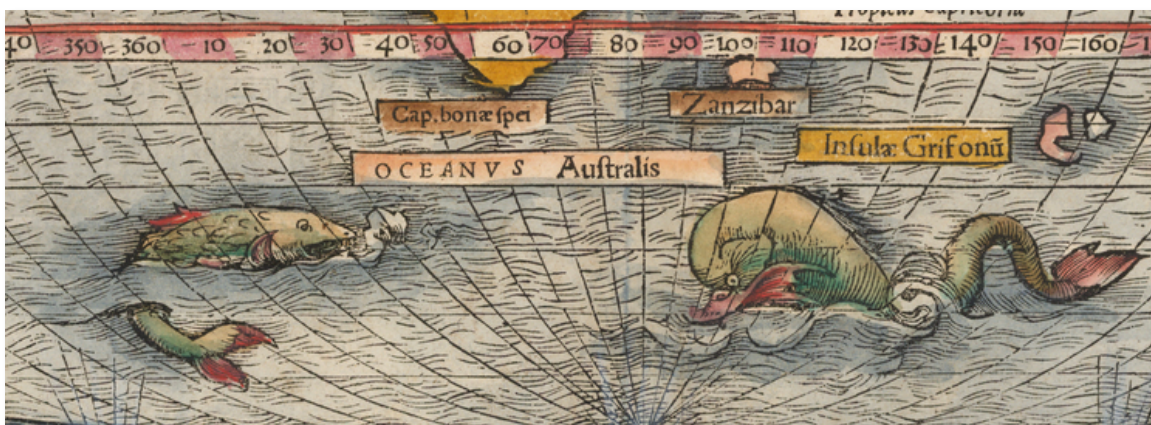




Many sea creatures depicted on the lithograph facsimile of the Ulpius Globe, Western Hemisphere, 1542, New York Historical Society, from Dr. De Costa (#367)

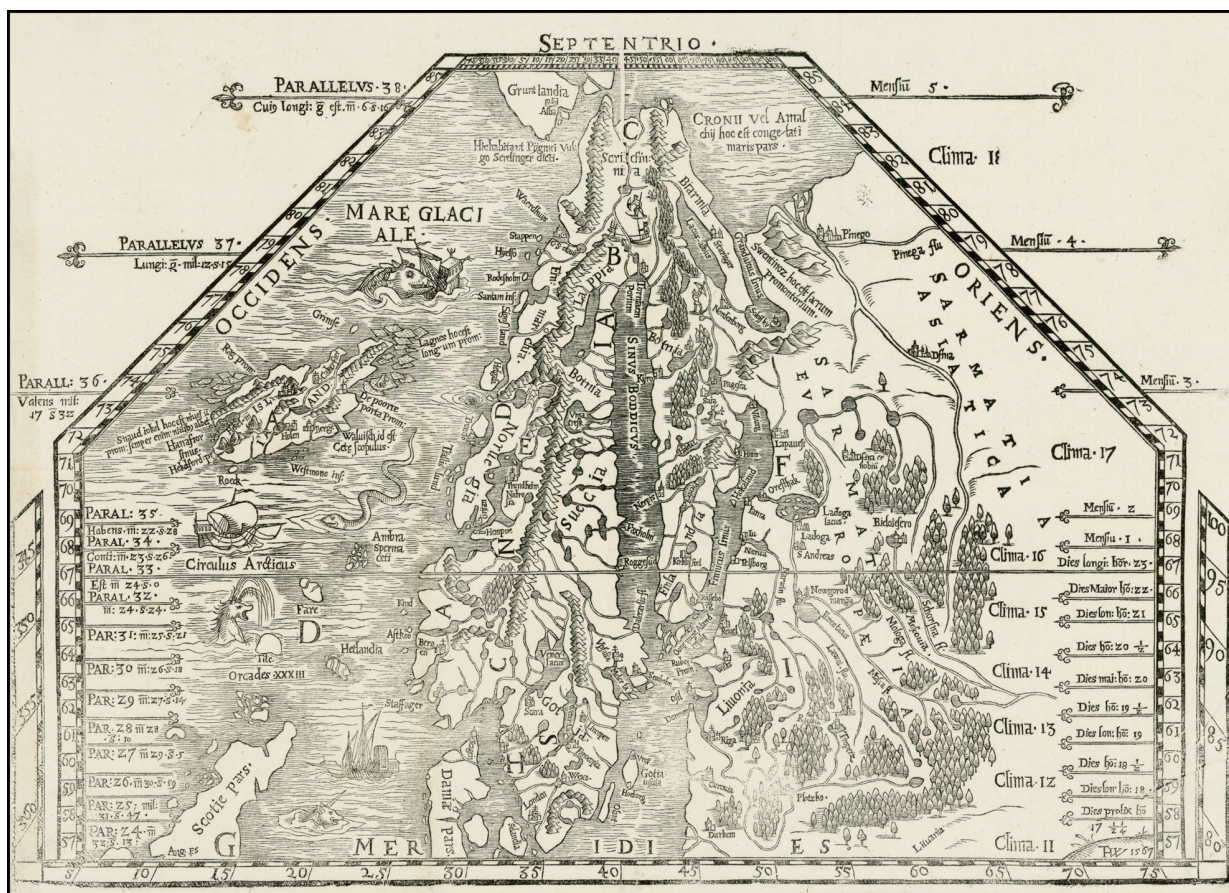


Sea creatures in the south Atlantic and Indian Oceans on the 1540 map *Typus Orbis Universalis* [from: *Geographia Universalis vetus et nova...*] by Sebastian Münster. (#377)

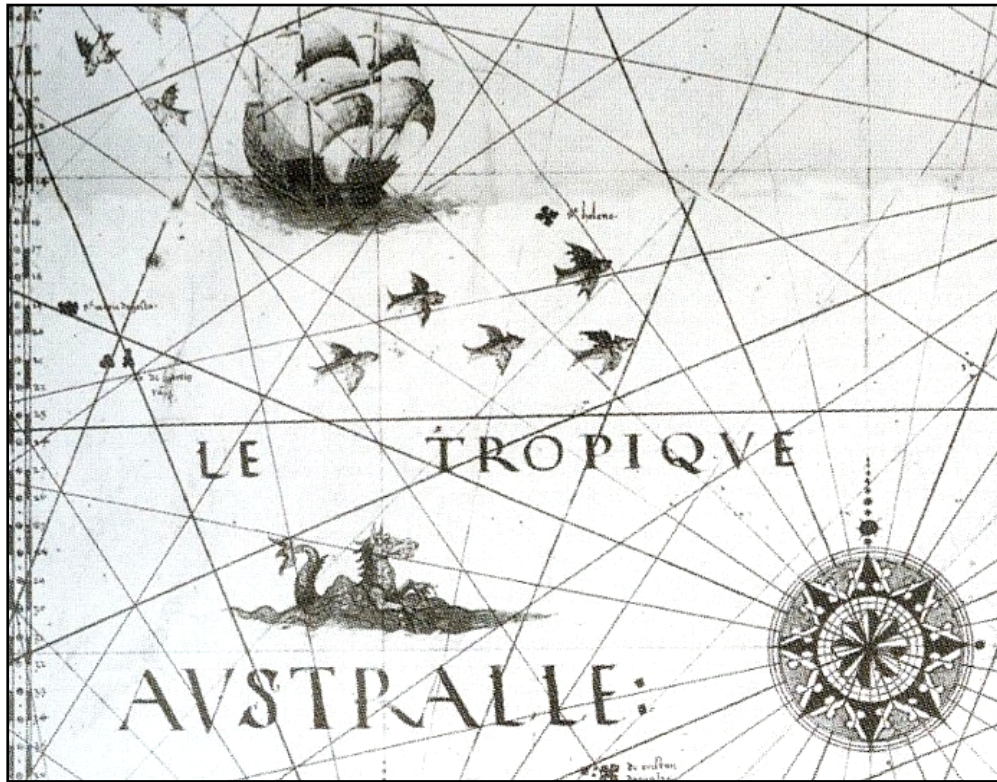


Creatures on Maps: Real & Imagined

5.17







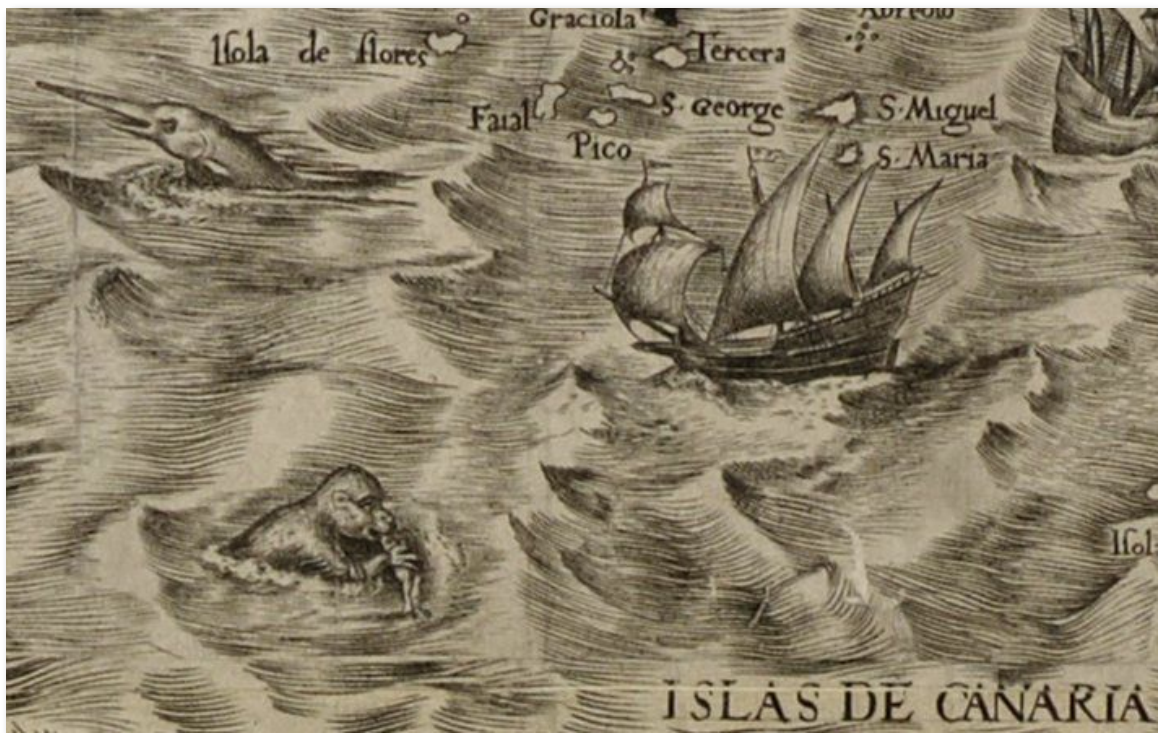
A sea dragon off the southwest coast of Africa on the 1553 Pierre Desceliers' Planisphere (#378)



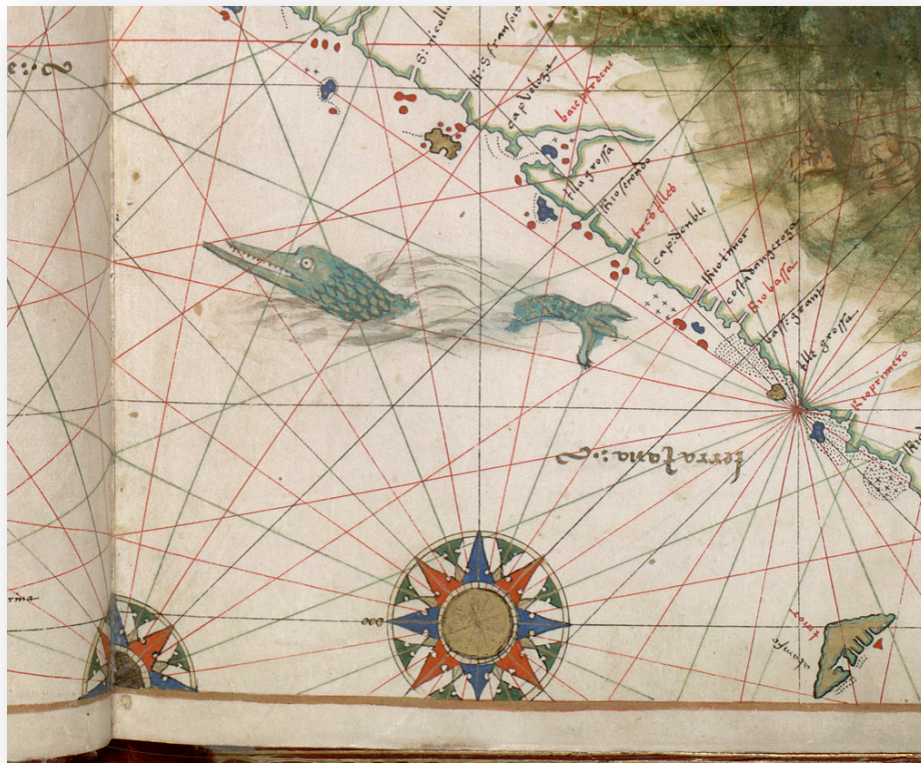
A "flying turtle" on a map of Northern Europe, Septentrionalium Regionum Suetiae Gothiae Norvegiae, Daniae et terrarum adjacentium recens exactoque descriptio, M. Tramezini, 1558



A winged-turtle on Gerard Mercator's Tabulae geographicae C. Ptolemei, 1578



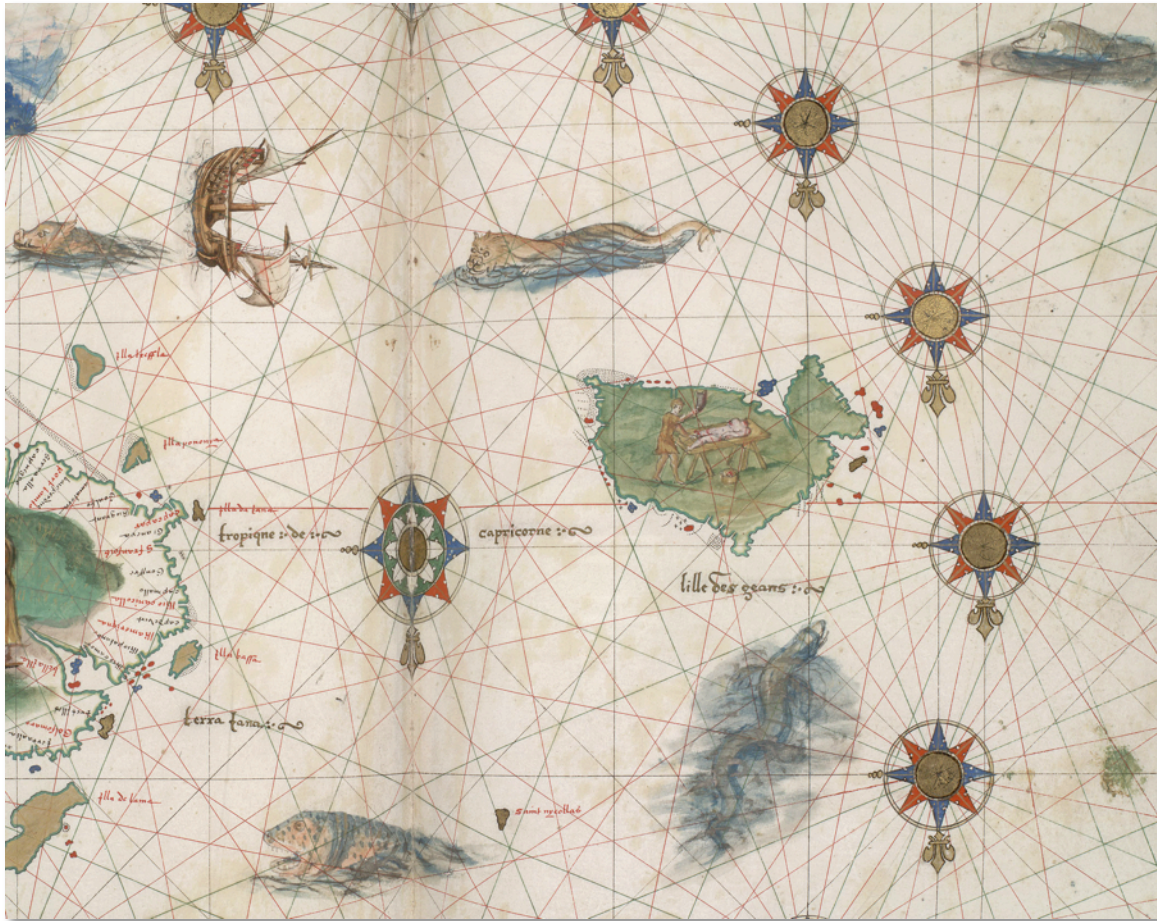
A flying fish can be spotted just below a ship battle in the lower right panel, while a strange-looking ape or monkey seems to be gnawing on its prey just west of the Canary Islands on the 1562 map Americae sive quartae orbis partis nova... by Diego Gutierrez (#400)



Sea creature on Map #1, Terra Java in the 1547 Vallard Atlas (#381.2)



Mermaids and a whale attacking a ship

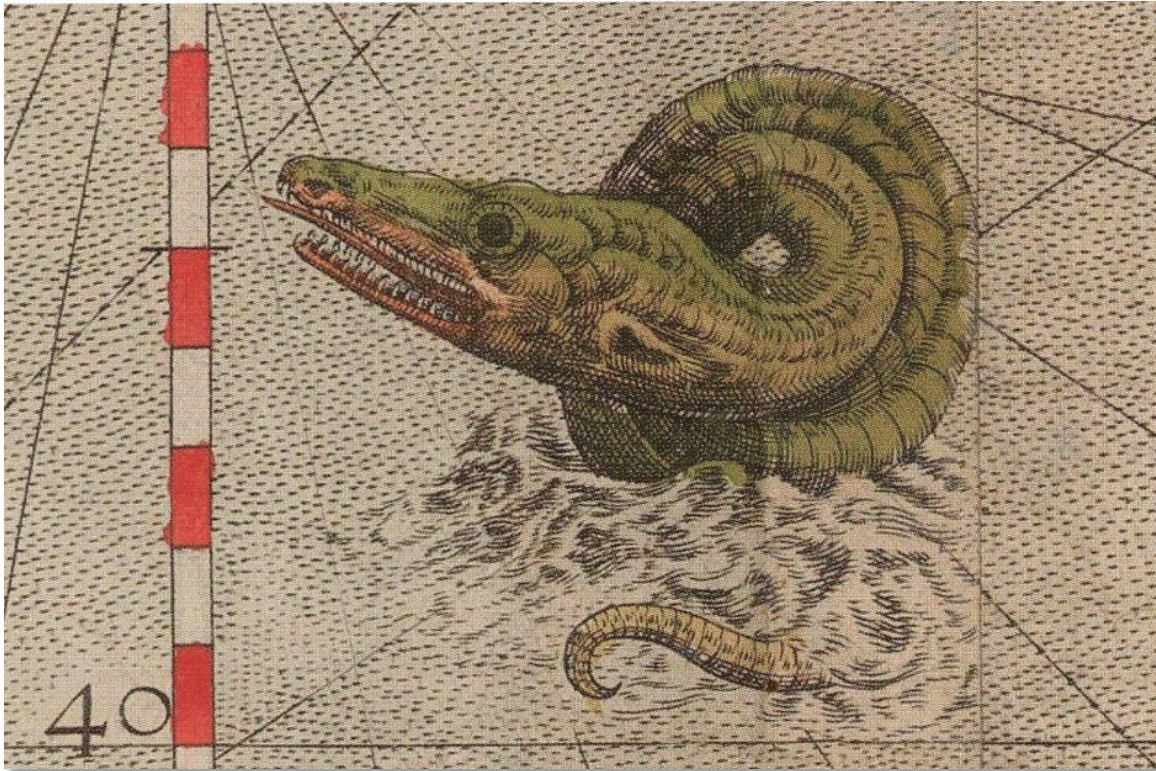


Sea creatures on Map #3, Terra Java in the 1547 Vallard Atlas (#381.2)

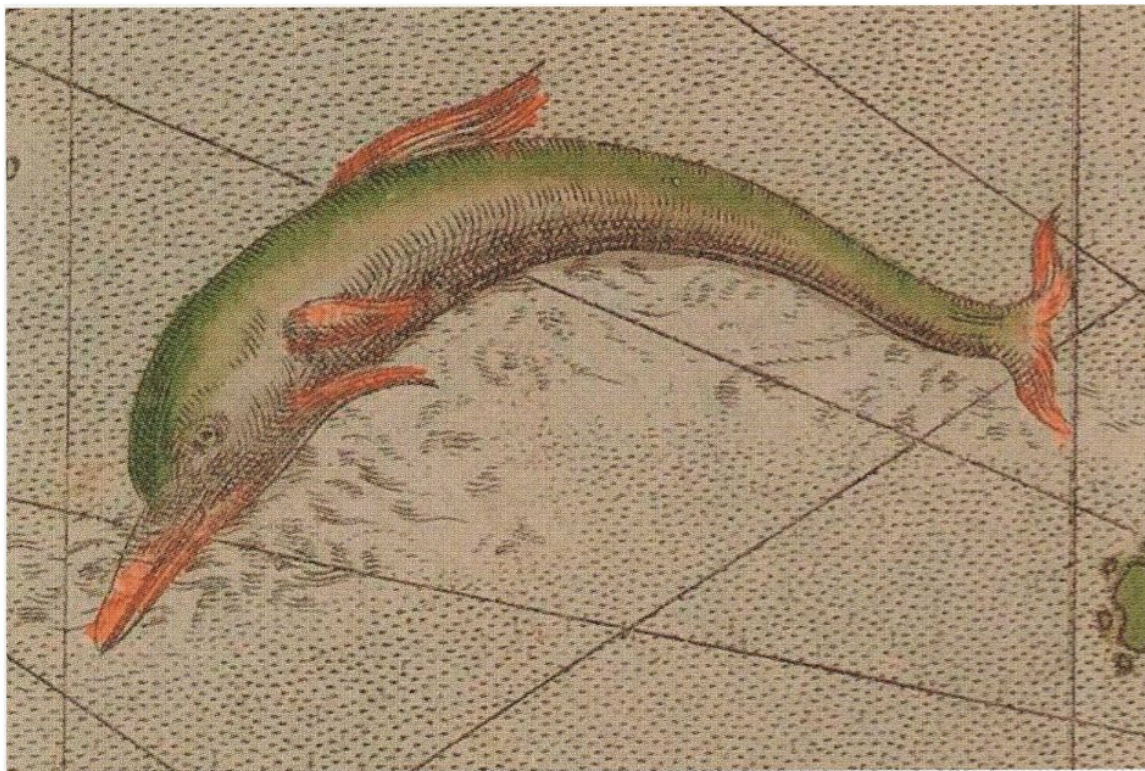


A portion of Caspar Vopel's 1558 world map showing South America

On Caspar Vopel's world map of 1558 (*Nova et integra universalisque orbis totius ... descriptio*) the seas are full of exotic monsters, and on the land there are pygmies in North America and the of South America there is a long legend about the anthropophagi or cannibals which had been reported to exist in South America. Vopel says that in fact the Spanish have searched the continent from the west, and the Portuguese from the east, and that no cannibals have been found – so that the words are contradicted good sign for the survival of monsters on maps.

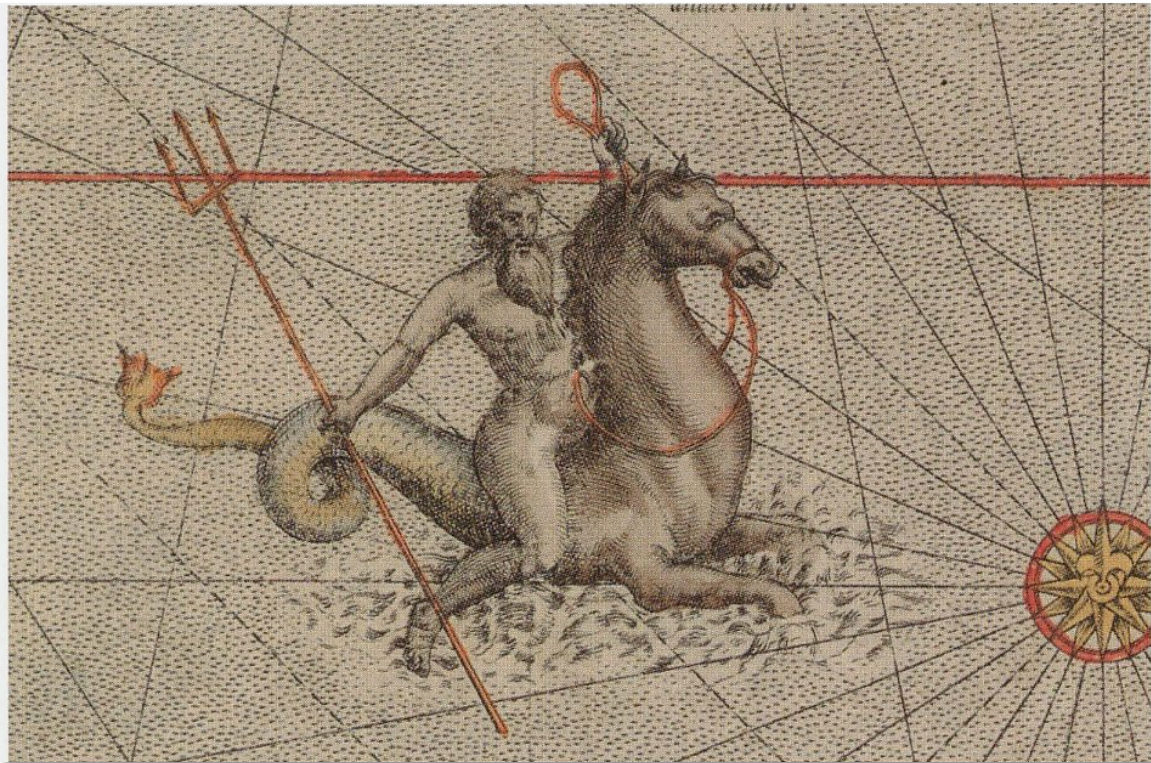


A sea creature in the Southern Atlantic on Gerard Mercator's world map, 1569 (#406)



A realistically depicted dolphin in the North Atlantic on Gerard Mercator's world map, 1569

+



*The mythical god Neptune riding a sea horse in the South Pacific
on Gerard Mercator's world map, 1569*



*A sea creature called a "hoge" depicted off the western coast of Central America on the map
Brasilia et Peruvia in Cornelis de Jode's Speculum Orbis Terrae, 1593*



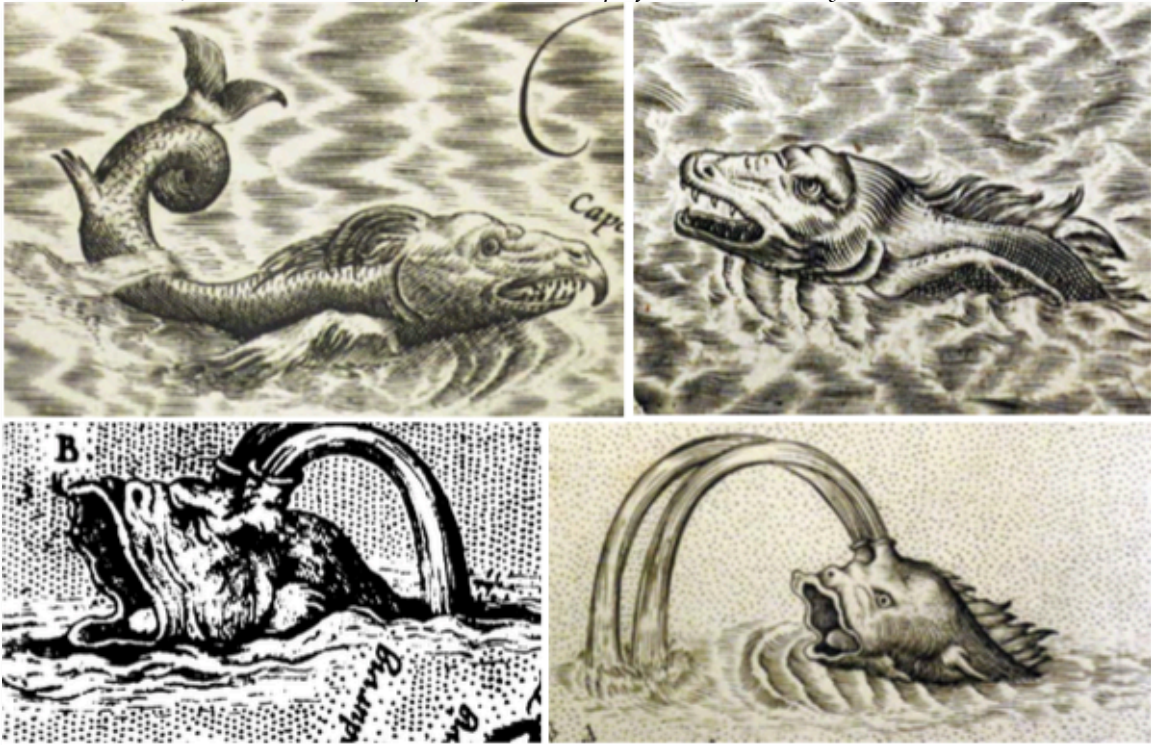
An aquatic unicorn on Cornelis de Jode's Quiviriae Regnum cum alijs versus Borea in his Speculum Orbis Terrae, 1593 (#432)



*A winged-fish in the Caribbean on Cornelis de Jode's Novae Guineae Forma & Situs
In his Speculum Orbis Terrae, 1593*



Jonah and Whale depicted in the map of Terra Sancta by Hondius.



Up on the left a generic sea monster on Hondius' map of Cyprus. It had already been depicted on the map of Taprobana Island in Mercator's *Tabulae geographicae Cl. Ptolemei* (1578). The generic sea monster on the right is depicted on three maps in the atlas: on the map of the northern part of Ireland by Mercator, as well as the map of Florida and Virginia and Haiti by Hondius.

Below on the left is a rorqual whale, depicted on Ortelius's map of Iceland, and on the right the one which is depicted on Mercator's map representing the same island. Ortelius: *Islandia* [1585], in Ortelius 1601; Mercator: *Islandia*.



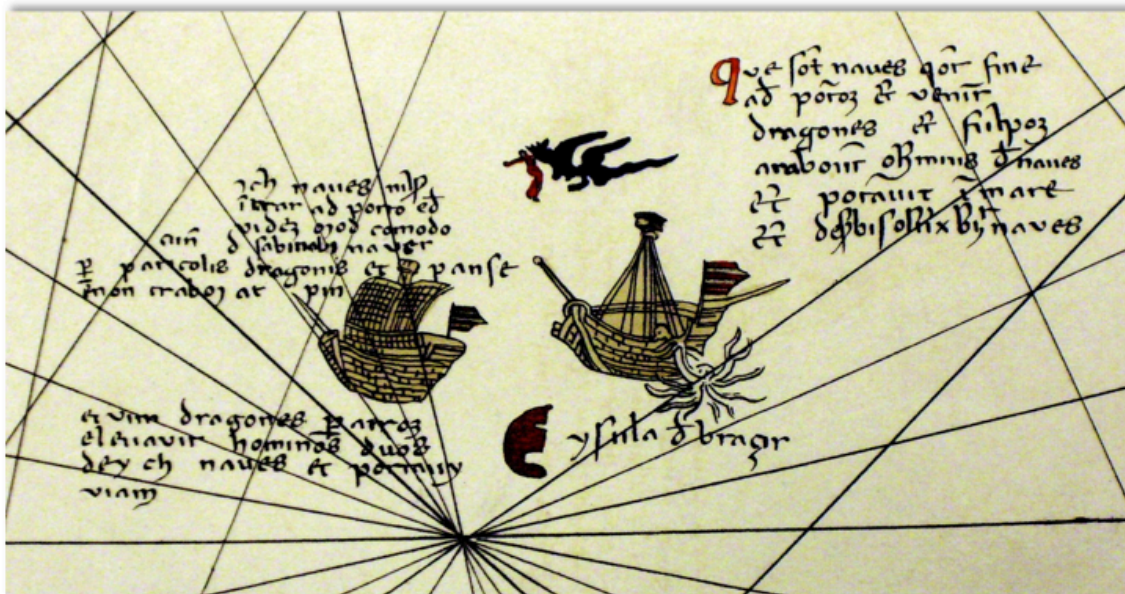
Three marine animals depicted in very a realistic manner on maps by Hondius.



Two seals and Indian boats and fishermen off the coast of Canada from Vincenzo Coronelli's 1688 globe (#488)



Two sea creatures in the Gulf of Mexico Indians from Vincenzo Coronelli's 1690 map *America Settentrionale . . .* (#488)



Two ships are attacked by a giant octopus and a flying dragon near the island of Brasil in the North Atlantic on the 1367 nautical chart by Pizzigani (from the Jomand facsimile)

Just like the unknown peripheries, oceans are practically devoid of information. The emptiness of the oceans highlights the terra-centric nature of maps. However, analyzing how the oceans were illustrated is of significance. On the one hand, the various ships sailing along the trade routes demonstrated the function of the ocean as a viable passage. On the other hand, sea monsters were used to decorate that which is unknown – as generic images of the unexplored and as intriguing details for the reader to examine. However, the earlier function of the sea monsters as an indication of danger eventually became no longer evident. Furthermore, the few realistic depictions of marine animals can be seen as a sign that the illustrations, perhaps, passed on information based on observations as well. The sea monsters and the marine animals on the maps, therefore, were indications of the knowledge and insights attached to the ocean spaces.

Thomas Honegger investigates the occurrence of the *draco marinus* in medieval and post-medieval texts, illustrations and maps, and discusses the question of why or why not, respectively, the sea-dragon constitutes an independent sub- category of *draco*. The evidence suggests that the dragon is a creature that inhabits the different elements so that the distinction into *draco maris*, *draco terrestris* and, theoretically, *draco aeris*, merely reflects a temporary feature and does not necessarily constitute a subdivision of classificatory relevance. Honegger concludes that the *draco maris* has proven to be a rather elusive creature. Though we have early instances of mentions of the sea-dragon (e.g. Pliny), closer examination shows that it is more often than not a different creature than the marine brother of the *Beowulf-wyrm*. Furthermore, the sea-dragon has always been in competition with the sea serpent and the two have often been seen as identical – or, if not identical, at least interchangeable in their function(s). The latter has, of course, the advantage of possessing a real-world counterpart and the fact that the encyclopaedists defined the dragon as the biggest of serpents must have additionally influenced the development in its favor.

Another perspective is offered by Chet van Duzer in a short article, “With Savage Pictures Fill their Gaps’: On Cartographers’ Fears of Blank Spaces”. Here he states that historians of cartography occasionally refer to cartographers’ *horror vacui*, that is, their fear or hesitancy to leave spaces blank on maps that might be filled with decorations. Some scholars have denied that this impulse was a factor in the design of maps, but the question has never been examined carefully. The maps exhibited here show that a fear of empty spaces on maps, or at least a fondness for filling every available space, was indeed an important factor in the design of maps, at least for some cartographers, from the 16th to the early 18th century. In the late 17th and 18th centuries maps began to be thought of as more purely scientific instruments, cartographic decoration declined generally, and cartographers managed to restrain their concern about spaces lacking decoration in the interest of presenting their work as modern and professional. Some cartographers adopted this new aesthetic before others, but as more and more cartographers did so, maps adopted their typically unadorned modern appearance.

References:

- Brooke-Hitching, E., *The Phantom Atlas*, pp. 54-63
 Honegger, Thomas, “The Sea-dragon – in Search of an Elusive Creature”.
 Latva, O. and Johanna Skurnik, “Knowing and decorating the world, Illustrations and textual descriptions in the maps of the fourth edition of the Mercator-Hondius Atlas (1613)”, *Approaching Religion*, Vol. 6, No. 1 May 2016.

Nigg, J., *Sea Monsters*, The University of Chicago Press, 2013, 160pp.

Van Duzer, C., *Sea Monsters on Medieval and Renaissance Maps*, British Library, 2013, 143pp.

Van Duzer, C., "Hic sunt dracones: The Geography and Cartography of Monsters", *Ashgate Research Companion to Monsters and the Monstrous*.

Monographs:

201 Macrobian *Mappaemundi*, 400

207 Beatus *Mappaemundi*, 8th century

235 *Catalan Atlas*, 1375

241 Andrea Bianco *Mappamundi*, 1436

246 *Catalan Estense Mappamundi*, 1460

248 Genoese *Mappamundi*, 1457

344 Paris Gilt Globe, 1527

353 *Typus Cosmographicus Universalis*, S. Grynaeus/H. Hoblein [S. Münster?], 1532

366 *Carta Marina*, Olaus Magnus, 1539

367 Ulpius Globe, 1542

376 Gastaldi's *Dell Universale*, 1550

378 Pierre Desceliers' Planispheres, 1546, 1550, 1553

381.2 *Vallard Atlas*, 1547

400 *Americae sive quartae orbis partis nova*, Diego Gutiérrez, 1562

406 Gerard Mercator's World Map, 1569

432 Cornelis de Jode, *Quiviriae Regnum cum alijs versus Borea*, 1593